CLAIMS

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A system of the production of an autologous platelet gel, comprising:

a centrifuge including a blood reservoir having an inlet port for receiving an autologous anticoagulated blood sample comprising multiple inactive blood components and an outlet port for removing at least one inactive blood component upon separation;

a dispenser having at least two collection chambers wherein a first collection chamber activates said inactive blood component and stores the resulting coagulated blood component, and a second collection chamber stores an inactive blood component;

a filter for separating thrombin from said coagulated blood component; and

a nozzle for entraining and mixing said thrombin with said inactive blood component thereby forming an autologous platelet gel.

2. The system of claim 1, wherein said anticoagulated blood sample is separated into various inactive blood components comprising a red blood cell component, a white blood cell component, a platelet rich plasma component and a platelet poor plasma component.

3. The system of claim 2, wherein said inactive blood components contain sodium citrate.

4. The system of claim 3, wherein said first collection chamber contains a restoration agent and an activation agent.

5. The system of claim 4, wherein said restoration agent is a calcium salt.

6. The system of claim 5, wherein said calcium salt is calcium chloride, calcium gluconate, or calcium carbonate.

7. The system of claim 4, wherein said activation agent is glass wool, silica, aluminum, diatomaceous earth, kaolin, plastic, siliconized glass or a chemical activator.

8. The system of claim 2, wherein said anticoagulated blood sample contains heparin.

9. The system of claim 8, wherein said first collection chamber contains a restoration agent and an activation agent.

10. The system of claim 9, wherein said restoration agent is an anti-heparin agent.

11. The system of claim 10, wherein said anti-haeparin agent is heparinase or protamine.

12. The system of claim 8, wherein said activation agent is glass wool, silica, aluminum, diatomaceous earth, kaolin, plastic, siliconized glass or a chemical activator.

13. The system of claim 2, wherein said inactive platelet rich plasma is dispensed into said first and second collection chambers.

14. The system of claim 2, wherein said inactive platelet poor plasma is dispensed into said first and second collection chambers.

15. The system of claim 2, wherein said platelet rich plasma is dispensed into said first collection chamber and said platelet poor plasma is dispensed into said second collection chamber.

16. The system of claim 2, wherein said platelet poor plasma is dispensed into said first collection chamber and said platelet rich plasma is dispensed into said second collection chamber.

17. The system of claim 13, wherein said platelet rich plasma in said first collection chamber coagulates as a result of being activated and the coagulated platelet rich plasma is triturated thereby expressing thrombin and said thrombin is mixed with said platelet rich plasma.

18. The system of claim 14, wherein said platelet poor plasma in said first collection chamber coagulates as a result of being activated and the coagulated platelet poor plasma is triturated thereby expressing thrombin and said thrombin is mixed with said platelet poor plasma.

19. The system of claim 15, wherein said platelet rich plasma in said first collection chamber coagulates as a result of being activated and the coagulated platelet rich plasma is triturated thereby expressing thrombin and said thrombin is mixed with said platelet poor plasma.

20. The system of claim 16, wherein said platelet poor plasma in said first collection chamber coagulates as a result of being activated and the coagulated platelet poor plasma is triturated thereby expressing thrombin and said thrombin is mixed with said platelet rich plasma.

21. The system of claim 1, wherein said second collection chamber further comprises genetic agents.

22. The system of claim 21, wherein said genetic agents comprise enzymes, enzyme inhibitors, glycoproteins, growth factors such as lymphokines, and cytokines, hormones, steroids, glucocorticosteroids, immunomodulators, immunoglobulins, neuroleptics, proteins, peptides, lipoproteins, tumoricidal compounds, turnorstatic compounds or derivatives and analogues thereof.

23. The system of claim 1, wherein said second collection chamber further comprises medicinal agents.

24. The system of claim 23, wherein said medicinal agents comprise analgesic compounds, such as Lidocaine, antibacterial compounds, including bacteriocidal and bacteriostatic compounds, antibiotics such as adriamycin, erythromycin, gentimycin, penicillin, tobramycin, antifungal compounds, anti-inflammatories, antiparasitic compounds, antiviral compounds, anticancer compounds such as paclitaxol, toxins and vitamins such as Vitamin A, Vitamin E, Vitamin B, Vitamin C, Vitamin D, or derivatives or analogues thereof.

25. The system of claim 1, wherein said filter is positioned within said first collection chamber and comprises glass wool which also serves as said contact activator.

26. The system of claim 1, wherein said filter is position outside of said first collection chamber and has a pore size that allows thrombin to pass but debris from said coagulated active blood component is retained.

27. The system of claim 1, wherein said collection chamber further comprises any organic or inorganic material.